



U.S. ENVIRONMENTAL PROTECTION AGENCY

Office of Pesticide Programs  
Registration Division (7505P)  
1200 Pennsylvania Ave., N.W.  
Washington, D.C. 20460

EPA Reg. Number:

432-1471

Date of Issuance:

04/09/2015

NOTICE OF PESTICIDE:

☒ Registration  
☐ Reregistration  
(under FIFRA, as amended)

Term of Issuance:

Conditional

Name of Pesticide Product:

Spirotetramat 240 SC Greenhouse  
and Nursery Insecticide/miticide

Name and Address of Registrant (include ZIP Code):

Amy McCaskill  
Bayer CropScience  
P. O. Box 12014  
Research Triangle Park, NC 27709

**Note:** Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered under the Federal Insecticide, Fungicide and Rodenticide Act.

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is conditionally registered in accordance with FIFRA section 3(c)(7)(A). You must comply with the following conditions:

1. Submit and/or cite all data required for registration/registration review of your product under FIFRA when the Agency requires all registrants of similar products to submit such data.

Signature of Approving Official:

Mark Suarez, Product Manager 07  
Invertebrate & Vertebrate Branch 3,  
Registration Division (7505P)

Date:

04/09/2015

2. This registration notice removes the expiration date for this product. However, this remains a conditional registration, because the source product is registered conditionally.
3. Submit one copy of the final printed label for the record before you release the product for shipment.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

If you fail to satisfy these data requirements, EPA will consider appropriate regulatory action including, among other things, cancellation under FIFRA section 6(e). Your release for shipment of the product constitutes acceptance of these conditions. A stamped copy of the label is enclosed for your records. Please also note that the record for this product currently contains the following CSFs:

- Basic CSF dated 8/23/2007
- Alternate CSF #1 dated 8/24/2007

If you have any questions, please contact Rita Kumar at (703) 308-8291 or [kumar.rita@epa.gov](mailto:kumar.rita@epa.gov).

Sincerely,

A handwritten signature in black ink, appearing to read 'MS', with a horizontal line extending to the right.

Mark Suarez  
Product Manager 07  
Invertebrate & Vertebrate Branch 3  
Registration Division (7505P)  
Office of Pesticide Programs

Enclosure: Stamped label

GROUP	23	INSECTICIDE
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# Spirotetramat 240 SC Greenhouse and Nursery Insecticide/Miticide

## Greenhouse and Nursery Insecticide/Miticide

For foliar and systemic insect control on ornamentals, fruit and nut trees, and vegetable plants in greenhouses, nurseries and interiorscapes

### ACTIVE INGREDIENT:

Spirotetramat: *cis*-3-(2,5-dimethylphenyl)-8-methoxy-2-oxo-1-azaspiro[4,5]dec-3-en-4-yl-ethyl carbonate... 22.4%

OTHER INGREDIENTS:..... 77.6%

Contains 2 pounds of spirotetramat per US gallon, or 240 grams per liter. 100.0%

EPA Registration Number 432-1471

EPA Est. No.

**STOP - Read the label before use**  
**KEEP OUT OF REACH OF CHILDREN**  
**CAUTION**

For MEDICAL And TRANSPORTATION Emergencies ONLY Call 24 Hours A Day 1-800-334-7577  
For PRODUCT USE Information Call 1-800-331-2867

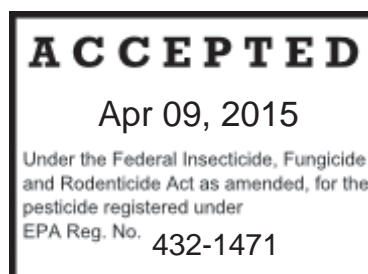
### FIRST AID

IF ON SKIN OR CLOTHING:	<ul style="list-style-type: none"> <li>Take off contaminated clothing.</li> <li>Rinse skin immediately with plenty of water for 15 to 20 minutes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
IF SWALLOWED:	<ul style="list-style-type: none"> <li>Call a poison control center or doctor immediately for treatment advice.</li> <li>Have person sip a glass of water if able to swallow.</li> <li>Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>Do not give anything by mouth to an unconscious person.</li> </ul>
IF IN EYES:	<ul style="list-style-type: none"> <li>Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>Remove contact lenses, if present, after the first five minutes, then continue rinsing.</li> </ul>
<p>In case of emergency call toll free the Bayer CropScience Emergency Response Telephone No. 1-800-334-7577.  Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-334-7577 for emergency medical treatment information.</p>	
<p><b>Note To Physician:</b> No specific antidote is available. Treat patient symptomatically.</p>	

### PRECAUTIONARY STATEMENTS

#### HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION

Harmful if swallowed or absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Remove contaminated clothing and wash before reuse. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.



## PERSONAL PROTECTIVE EQUIPMENT (PPE)

### Applicators and other handlers must wear:

- Protective eyewear
- Long-sleeved shirt and long pants
- Chemical-resistant gloves
- Shoes plus socks

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

## ENGINEERING CONTROLS STATEMENT

When handlers use closed systems, or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

### User Safety Recommendations

#### Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove Personal Protective Equipment immediately after handling this product.
- Wash the outside of gloves before removing.
- As soon as possible, wash thoroughly and change into clean clothing.

## ENVIRONMENTAL HAZARDS

**For Terrestrial Use:** This pesticide is toxic to aquatic invertebrates and oysters. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. This product may contaminate water through drift of spray in wind. Do not apply when weather conditions favor drift from treated areas. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwaters or rinsate.

This chemical has properties and characteristics associated with chemicals detected in ground water. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground-water contamination.

This product is potentially toxic to honey bee larvae through residues in pollen and nectar, but not to adult honey bees. Exposure of adult bees to direct treatment or residues on blooming crops can lead to effects on honey bee larvae. See the "Directions for Use" section of this label for specific crop application instructions that minimize risk to honey bee larvae.

### Spray Drift Reduction Management

Do not apply when wind speed favors drift beyond the area intended for treatment. The interaction of many equipment and weather related factors determine the potential for spray drift. The applicator is responsible for considering all of these factors when making application decisions. Avoiding spray drift is the responsibility of the applicator.

**Importance of Droplet Size:** An important factor influencing drift is droplet size. Select nozzles and pressure that deliver medium spray droplets as indicated in nozzle manufacturer's catalogs and in accordance with ASAE Standard S-572. Nozzles that deliver coarse spray droplets may be used to reduce spray drift provided spray volume per acre (GPA) is increased to maintain crop coverage. Low humidity and high temperature increase the evaporation rate of spray droplets and therefore the likelihood of spray drift to aquatic areas. Avoid spraying during conditions of low humidity and/or high temperature.

**Wind Speed Restrictions:** Drift potential increases at wind speeds of less than 3 mph (due to inversion potential) or more than 10 mph. However, many factors, including droplet size, canopy and equipment specifications determine drift potential at any given wind speed. Do not apply when winds are greater than 15 mph and avoid gusty and windless conditions. Avoiding applications when wind direction is toward an aquatic area can reduce risk exposure to sensitive aquatic areas.

**Restrictions During Temperature Inversions:** Do not make ground applications during temperature inversions. Drift potential is high during temperature inversions. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog. However, if fog is not present, the movement of smoke from a ground source can also identify inversions. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

**Airblast (Air Assist) Specific Recommendations:** Airblast sprayers carry droplets into the canopy via a radial or lateral directed air stream. The following drift management practices should be followed:

- Adjust deflectors and aiming devices so that spray is only directed into the canopy;

- Block off upward pointed nozzles when there is no overhanging canopy;
- Use enough air volume to penetrate the canopy and provide good coverage;
- Do not allow the spray to go beyond the edge of the cultivated area (i.e., turn off sprayer when turning at end rows);
- For applications to the outside rows, only spray inward, toward the targeted plants.

#### **RUNOFF MANAGEMENT**

This product may contaminate water through runoff or drift of spray in wind. This product has a high potential for runoff for several weeks after application. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product. A level well maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential for contamination of water from rainfall runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours.

#### **ENDANGERED SPECIES ADVISORY**

The use of any pesticide in a manner that may kill or otherwise harm endangered species or adversely modify their habitat is a violation of Federal law.

#### **INSECT RESISTANCE STATEMENT**

Some insects are known to develop resistance to insecticides after repeated use. As with any insecticide, the use of this product should conform to resistance management strategies established for the use area. Spirotetramat 240 SC Greenhouse and Nursery Insecticide/Miticide contains an active ingredient with a mode of action classified as a Group 23 insecticide – lipid biosynthesis inhibitor (LBI). Studies to determine cross-resistance of Group 23 insecticides with other chemical classes have demonstrated no cross-resistance. Bayer CropScience strongly encourages that Spirotetramat 240 SC Greenhouse and Nursery Insecticide/Miticide, applied alone or in tankmix combination with another Group 23 product, be applied in a block rotation or windowed approach with products from other chemical classes having a different mode of action before using additional applications of Group 23 insecticides against the same target pest. Using a block rotation or windowed approach, along with other IPM practices, is considered an effective use strategy for preventing or delaying an insect pest's ability to develop resistance to a given class of chemistry.

Contact your local extension specialist, certified crop advisor and/or product manufacturer for additional resistance management or IPM recommendations. Also, for more information on Insect Resistance Management (IRM), visit the Insecticide Resistance Action Committee (IRAC) on the web at <http://irac-online.org>.

### **DIRECTIONS FOR USE**

**It is a violation of Federal law to use this product in a manner inconsistent with its labeling.**

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

For foliar and systemic insect control on ornamental plants in greenhouses, nurseries, and interior landscapes, including non-bearing fruit and nut trees (i.e., trees that will not bear fruit or nuts for one year after application) and vegetables for resale.

#### **AGRICULTURAL USE REQUIREMENTS**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval (REI). The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the REI of **24 hours** following application. **Exception:** If the product is applied by drenching the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated such as plants, soil, or water is:

- Long-sleeved shirt and long pants
- Protective eyewear
- Chemical-resistant gloves
- Shoes plus socks

## STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

**Pesticide Storage:** Spirotetramat 240 SC Greenhouse and Nursery Insecticide/Miticide is packaged in poly-ethylene containers. Do not allow product or containers to freeze. Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.

Handle and open container in a manner as to prevent spillage. If container is leaking, invert to prevent leakage. If the container is leaking or material is spilled for any reason or cause, carefully dam up spilled material to prevent runoff. Refer to Precautionary Statements on label for hazards associated with the handling of this material. Do not walk through spilled material. Absorb spilled material with absorbing type compounds and dispose of as directed for pesticides below. In spill or leak incidents, keep unauthorized people away. You may contact the Bayer CropScience Emergency Response Team for decontamination procedures or any other assistance that may be necessary. The Bayer CropScience Emergency Response Telephone No. is (800) 334-7577, or contact Chemtrec at (800) 424-9300.

**Pesticide Disposal:** Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

**Container Disposal:** Non-refillable container. Do not reuse or refill this container.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

## APPLICATION INFORMATION

Spirotetramat 240 SC Greenhouse and Nursery Insecticide/Miticide is a Suspension Concentrate formulation. Following application to plant foliage, Spirotetramat 240 SC Greenhouse and Nursery Insecticide/Miticide is fully systemic, moving through phloem and xylem to all plant tissues including new shoot, leaf and root growth. Spray adjuvants with spreading / penetrating characteristics may improve leaf uptake and systemic concentration of active ingredient. The active ingredient contained in Spirotetramat 240 SC Greenhouse and Nursery Insecticide/Miticide is active primarily by ingestion. Fecundity of adult insects and mites may be reduced. Make applications as preventative treatments or to coincide with early threshold levels in developing insect and mite populations. Spirotetramat 240 SC Greenhouse and Nursery Insecticide/Miticide can be applied by ground equipment (including hand-held application equipment) or through chemigation.

### FOLIAR SPRAY APPLICATIONS

Foliar applications must be made using properly calibrated ground sprayers (including hand-held and backpack sprayers), through properly designed, sprinkler-type, chemigation equipment (See Chemigation Application directions below).

#### Application through irrigation systems

Spirotetramat 240 SC Miticide/ Insecticide may be applied at rates on this label either alone or in tank mixture with other pesticides and chemicals registered for application through irrigation systems. The normal dilution ratio is 1:10 to 1:200, depending on the system. Always meter the product into the irrigation water during the first part of the irrigation cycle. The product may be mixed separately prior to injection. Agitation may be necessary if the mixture is allowed to stand more than 24 hours.

Remove scale, pesticide residue and other foreign matter from the tank and entire irrigation system.

Apply Spirotetramat 240 SC Greenhouse and Nursery Insecticide/Miticide only through microirrigation (individual spaghetti tube), drip irrigation, overhead irrigation, ebb and flood, or hand-held or motorized calibrated irrigation equipment.

Do not apply this product through any other type of irrigation system. Crop injury or lack of effectiveness can result from nonuniform distribution of treated water.

If you have any questions about calibration, contact State Extension Service specialists, equipment manufacturers or other experts.

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.

A person knowledgeable of the chemigation system and responsible for its operation, or a person who is under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

### SAFETY DEVICES FOR IRRIGATION SYSTEMS CONNECTED TO PUBLIC WATER SUPPLIES:

If the source of water for your irrigation system is a public water supply, follow the instructions below.

1. Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.



- Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
- The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
- Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- Do not apply when wind speed favors drift beyond the area intended for treatment.

#### **SAFETY DEVICES FOR IRRIGATION SYSTEMS NOT CONNECTED TO A PUBLIC WATER SUPPLY:**

- The system must contain a functional check valve, vacuum relief valve and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- The pesticide injection pipeline must also contain a functional normally closed solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where the pesticide distribution is adversely affected.
- Systems must use a metering pump such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- Do not apply when wind speed favors drift beyond the area intended for treatment.

**Ebb and Flood Application:** To assure accurate uptake, it is recommended that, prior to treatment, a minimum of 10 plants be brought up to a known field capacity and allowed to dry out for one or two days. Rewet these plants to determine how much water on average each plant will absorb to bring it back to field capacity. Use the volume absorbed per plant (keeping pot sizes uniform) multiplied by the number of pots being treated. Add to this volume a required minimum amount to flood the smallest treatment area. This process should minimize the return back to the storage tank. Re-use the returned volume with subsequent irrigation or nutrients on the same plants.

## **MIXING INSTRUCTIONS**

### **COMPATIBILITY / MIXING / ORDER-OF-MIXING**

Observe all cautions and limitations on labeling of all products used in mixtures.

Spirotetramat 240 SC Greenhouse and Nursery Insecticide/Miticide is physically and biologically compatible with many registered pesticides and fertilizers or micronutrients. When considering mixing Spirotetramat 240 SC Greenhouse and Nursery Insecticide/Miticide with other pesticides, or other additives, first contact your supplier for advice. For further information, contact your local Bayer representative. If your supplier and Bayer representative have no experience with the combination you are considering, conduct a test to determine physical compatibility. To determine physical compatibility, add the recommended proportions of each chemical with the same proportion of water as will be present in the chemical supply tank, into a suitable container, mix thoroughly, and allow the mixture to stand for five minutes. If the combination remains mixed, or can be readily remixed, the mixture is considered physically compatible.

The proper mixing procedure for Spirotetramat 240 SC Greenhouse and Nursery Insecticide/Miticide alone or in tank mix combinations with other pesticides is:

- Fill the spray tank 1/4 to 1/3 full with clean water;
- While recirculating and with the agitator running, add any labeled amounts of Spirotetramat 240 SC Greenhouse and Nursery Insecticide/Miticide. Allow time for thorough mixing;
- Continue to fill spray tank with water until 1/2 full;
- Add any other wettable powder (WP) or wettable granules (WG) products;

- 5) Allow enough time for thorough mixing of each product added to tank;
- 6) If applicable, add any remaining tank mix components: emulsifiable concentrates (EC), fertilizers, micronutrients, spray adjuvants.
- 7) Fill spray tank to desired level and maintain constant agitation to ensure uniformity of spray mixture.

#### **CROP TOLERANCE**

Spirotetramat 240 SC Greenhouse and Nursery Insecticide/Miticide has been evaluated for phytotoxicity on a wide range of ornamental plants. However, due to the large number of species and varieties of ornamental plants, it is impossible to test every one for tolerance to Spirotetramat 240 SC Greenhouse and Nursery Insecticide/Miticide. Prior to commercial use, determine if Spirotetramat 240 SC Greenhouse and Nursery Insecticide/Miticide can be used safely. In a small area, test the rates on a small number of plants for phytotoxicity prior to widespread use. Before using Spirotetramat 240 SC Greenhouse and Nursery Insecticide/Miticide in tank mixture with other products and adjuvants, test the mixture on a small number of plants for phytotoxicity prior to widespread use.

If you have any questions, consult your local Bayer Environmental Science representative, or call the Bayer Environmental Science customer service hotline at 1-800-334-7577.

Spirotetramat 240 SC Greenhouse and Nursery Insecticide/Miticide is not recommended for use on the following varieties: geraniums (*Pelargonium* spp.), orchids, hoyas, *Dracaena*, *Cordyline*, *Schefflera*, *neanthebella* palm, and ferns.

Do not make more than one application per season to *Hydrangea*, *Impatiens* spp., crotons (*Codiaeum* spp.), *Fuschia* hybrids, *Petunia*, *Peperomia*, stock, or cyclamens (*Cyclamen* spp.).



### CONTAINER DRENCH APPLICATIONS - SMALL CONTAINERS

For application only to ornamental plants in greenhouses, nurseries, and interior plantscapes, including non-bearing fruit and nut trees (i.e., trees that will not bear fruit or nuts for one year after application) and vegetable transplants\*, using soil drench, micro-irrigation, drip irrigation, overhead irrigation, ebb and flood irrigation, or hand-held motorized irrigation equipment.

Do not apply more than 25 fl oz (750 ml, 0.4 lb of active ingredient) per acre of nursery per season.

Do not apply more than 5 fl oz of product (0.08 lb of active ingredient) per acre per season to vegetable transplants.

Do not apply to greenhouse grown vegetables other than vegetable transplants.

Pest	Use Pattern	Dosage		Remarks
Adelgids Aphids Leafhoppers Mealybugs Psyllids Rust Mites <sup>1</sup> Scales (crawlers) Spider mites <sup>1</sup> Spittlebugs Tarsonemid Mites <sup>1</sup> Thrips (immature) <sup>2</sup> Whiteflies	Containerized Plants	Container Size (inches)	No. pots treated with 1.7 fl oz – 3.4 fl oz (50-100 mL) of product	Exact drenching volume is dependent upon pot size, potting medium, and plant type. Apply product in sufficient volume of water to wet the potting medium, without loss of liquid from the bottom of the container.
	Herbaceous species, 1-2 plants per pot	2		
		3		
		4	3000	
		5	2000	
		6	1500	Follow application with moderate irrigation. Irrigate carefully during the next 10 days in order to avoid loss of active ingredient from the bottom of the container.
		7	1200	
		8	1000	The mode of action of Spirotetramat 240 SC Greenhouse and Nursery Insecticide/Miticide is inhibition of lipid biosynthesis (IRAC Group 23 Insecticide). If retreatment is necessary, treat using a product with an alternative mode of action.
		9	850	
		10	750	
		11	650	
		12	600	
	Woody perennials	2	550	
		3	500	
		4	2000	
		5	1350	
		6	1000	
		7	800	
		8	650	
		9	550	
		10	500	
		11	450	
		12	400	
			350	
			300	

**\*VEGETABLE TRANSPLANTS:**

**FRUITING VEGETABLES:** Eggplant, Groundcherry, Pepinos, Pepper (Capsicum spp., including Bell, Chili, Cooking, Pimento and Sweet), Tomatillo, Tomato

**LEAFY VEGETABLES:** Amaranth (leafy amaranth, Chinese spinach, tampala), Arugula (Roquette), Cardoon, Celery, Celtuce, Chervil, Chinese celery, Chrysanthemum (edible-leaved and garland), Corn salad, Cress (garden), Cress (upland, yellow rocket, winter cress), Dandelion, Dock (sorrel), Endive (escarole), Florence fennel (Finocchio), Lettuce (head and leaf), Orach, Parsley, Purslane (garden and winter), Radicchio (red chicory), Rhubarb, Spinach [including New Zealand and vine (Malabar spinach, Indian spinach)], Swiss chard  
Broccoli, Brussels sprouts, Cabbage, Cauliflower, Cavalo broccolo, Chinese broccoli (gai lon), Chinese mustard cabbage (gai choy), Kohlrabi, Rape greens

**TUBEROUS AND CORM VEGETABLES:** Arracacha, Arrowroot, Artichoke (Chinese and Jerusalem), Canna (edible), Cassava (bitter and sweet), Chayote (root), Chufa, Dasheen (taro), Ginger, Leren, Sweetpotato, Tanier, Turmeric, Yam bean, Yam (true)

1 Mites - If populations are heavy at the time of application, control may not be achieved rapidly enough to prevent economic damage to the plant. Make applications preventatively, or when populations are first detected (use the higher dosage (3.4 fl oz of product). Spirotetramat 240 SC Greenhouse and Nursery Insecticide/Miticide will not control heavy populations of existing mites. If a second miticide application is necessary to achieve control, use a product with an alternative mode of action.

2 Thrips - Full control of thrips will be observed only on foliage; thrips in buds will be suppressed; thrips controlled will only be immature thrips. If populations are heavy at the time of application, control may not be achieved rapidly enough to prevent economic damage to the plant. Make applications preventatively, or when populations are first detected on foliage. For thrips control on woody perennials use the higher dosage (3.4 fl oz of product).

### CONTAINER DRENCH APPLICATIONS – LARGE CONTAINERS

For application only to ornamental plants in greenhouses, nurseries, and interior plantscapes, including non-bearing fruit and nut trees (i.e., trees that will not bear fruit or nuts for one year after application), using soil drench, micro-irrigation, drip irrigation, overhead irrigation, ebb and flood irrigation, or hand-held motorized irrigation equipment.

Do not apply more than 25 fl oz (750 ml, 0.4 lb of active ingredient) per acre of nursery per season.

Pest	Use Pattern	Dosage		Remarks
Adelgids Aphids Leafhoppers Mealybugs Psyllids Rust Mites <sup>1</sup> Scales (crawlers) Spider mites <sup>1</sup> Spittlebugs Tarsonemid Mites <sup>1</sup> Thrips (immature) <sup>2</sup> Whiteflies	Containerized Plants	Container Size (gallons)  1 2 3 5 7 10 15 20	No. pots treated with 1.7 fl oz – 3.4 fl oz (50-100 ml) of product  340 to 244 280 to 210 220 to 165 160 to 110 100 to 75 60 to 45 40 to 30 20 to 15	Exact drenching volume is dependent upon pot size, potting medium, and plant type. Apply product in sufficient volume of water to wet the potting medium, without loss of liquid from the bottom of the container.  Follow application with moderate irrigation. Irrigate carefully during the next 10 days in order to avoid loss of active ingredient from the bottom of the container.  The mode of action of Spirotetramat 240 SC Greenhouse and Nursery Insecticide/Miticide is inhibition of lipid biosynthesis (IRAC Group 23 Insecticide). For resistance management purposes, if retreatment is necessary, treat using a product with an alternative mode of action.
<p>1 Mites - If populations are heavy at the time of application, control may not be achieved rapidly enough to prevent economic damage to the plant. Make applications preventatively, or when populations are first detected (use the higher dosage (3.4 fl oz of product) Spirotetramat 240 SC Greenhouse and Nursery Insecticide/Miticide will not control heavy populations of existing mites. If a second miticide application is necessary to achieve control, use a product with an alternative mode of action.</p> <p>2 Thrips - Full control of thrips will be observed only on foliage; thrips in buds will be suppressed; thrips controlled will only be immature thrips. If populations are heavy at the time of application, control may not be achieved rapidly enough to prevent economic damage to the plant. Make applications preventatively, or when populations are first detected on foliage. For thrips control on woody perennials use the higher dosage (3.4 fl oz product).</p>				

### FOLIAR APPLICATIONS FOR ORNAMENTALS GROWN IN GREENHOUSES

For foliar insect control in greenhouses.

#### USE RESTRICTIONS

Do not apply more than 25 fl oz (750 ml, 0.4 lb of active ingredient) per acre of nursery per season (excluding vegetable transplants).

Do not apply more than 10 fl oz of product (300 ml, 0.16 lb of active ingredient) per acre per season to vegetable transplants.

Minimum interval between foliar applications to vegetable transplants: 7 days

Do not apply to greenhouse grown vegetables other than vegetable transplants.

CROP	PEST	DOSAGE	REMARKS
Flowers Foliage Plants Groundcovers Ornamentals in flats and plugtrays	Adelgids Aphids Leafhoppers Mealybugs <sup>1</sup> Psyllids Scales (crawlers) Spider mites <sup>2</sup> Spittlebugs Tarsonemid Mites <sup>2</sup> Thrips <sup>3</sup> Whiteflies	1.7 fl oz – 3.4 fl oz (50-100 ml) of product / 100 gallons of water  or  0.051 fl oz (1.5 ml) – 0.1 fl oz (3.0 ml) of product / 3-gal of water	<b>Foliar applications:</b> Start treatments prior to establishment of high pest population and reapply on an as-needed basis.  Apply when pests first appear or when damage is first noticed. Spray thoroughly.
Shrubs Evergreens Trees - including Non-bearing Fruit and Nut Trees (Non-bearing fruit and nut trees are those trees that will not bear fruit or nuts for one year after application)			The addition of a spreader sticker may improve efficacy.  Make ground applications to foliage in a minimum of 10 gallons of spray solution per acre.  Make airblast application in a minimum of 50 gallons of spray solution per acre.  If concentrate or mist type spray equipment is used, use an equivalent amount of product on the area sprayed as would be used in a dilute application.  Reapply at 14-28 days interval, if needed.
Vegetable transplants*			

**\*VEGETABLE TRANSPLANTS:**

**FRUITING VEGETABLES:** Eggplant, Groundcherry, Pepinos, Pepper (Capsicum spp., including Bell, Chili, Cooking, Pimento and Sweet), Tomatillo, Tomato

**LEAFY VEGETABLES:** Amaranth (leafy amaranth, Chinese spinach, tampala), Arugula (Roquette), Cardoon, Celery, Celtuce, Chervil, Chinese celery, Chrysanthemum (edible-leaved and garland), Corn salad, Cress (garden), Cress (upland, yellow rocket, winter cress), Dandelion, Dock (sorrel), Endive (escarole), Florence fennel (Finocchio), Lettuce (head and leaf), Orach, Parsley, Purslane (garden and winter), Radicchio (red chicory), Rhubarb, Spinach [including New Zealand and vine (Malabar spinach, Indian spinach)], Swiss chard  
Broccoli, Brussels sprouts, Cabbage, Cauliflower, Cavalo broccolo, Chinese broccoli (gai lon), Chinese mustard cabbage (gai choy), Kohlrabi, Rape greens

**TUBEROUS AND CORM VEGETABLES:** Arracacha, Arrowroot, Artichoke (Chinese and Jerusalem), Canna (edible), Cassava (bitter and sweet), Chayote (root), Chufa, Dasheen (taro), Ginger, Leren, Sweetpotato, Tanier, Turmeric, Yam bean, Yam (true)

1 Mealybugs - If populations are heavy, make two foliar applications at 14-21 day intervals to control mealybug larvae that emerge after the first application.

2 Mites - If populations are heavy at the time of application, control may not be achieved rapidly enough to prevent economic damage to the plant. Make applications preventatively, or when populations are first detected. Spirotetramat 240 SC Greenhouse and Nursery Insecticide/Miticide will not control heavy populations of spider mites. If a second miticide application is necessary to achieve control, use a product with an alternative mode of action.

3 Thrips - Full control of thrips will be observed only on foliage; thrips in buds will be suppressed. If populations are heavy at the time of application, control may not be achieved rapidly enough to prevent economic damage to the plant. Make applications preventatively, or when populations are first detected on foliage.

### FOLIAR APPLICATIONS FOR ORNAMENTALS GROWN OUTSIDE GREENHOUSES

For foliar insect control around greenhouses, field grown nurseries and container stocks, outdoor ornamentals, and ornamentals grown in flats, benches or beds.

#### USE RESTRICTIONS

Do not apply more than 25 fl oz (750 ml, 0.4 lb of active ingredient) per acre of nursery per season (excluding vegetable transplants).

Do not apply more than 5.1 fl oz of product (153 ml, 0.081 lb of active ingredient) per acre per application to outdoor ornamentals.

Do not apply more than 10 fl oz of product (300 ml, 0.16 lb of active ingredient) per acre per season to vegetable transplants.

Do not apply to greenhouse grown vegetables other than vegetables transplants.

Minimum interval between foliar applications to vegetable transplants: 7 days

Do not apply until after petal fall to stone fruit, pome fruit, and tree nuts.

Do not apply this product to citrus within 10 days prior to bloom, during bloom, or until petal fall is complete.

CROP	PEST	DOSAGE	REMARKS
Flowers Foliage Plants Groundcovers Ornamentals in flats and plugtrays	Adelgids Aphids Leafhoppers Mealybugs <sup>1</sup> Psyllids Scales (crawlers) Spider mites <sup>2</sup> Spittlebugs Tarsonemid Mites <sup>2</sup> Thrips <sup>3</sup> Whiteflies	1.7 fl oz – 3.4 fl oz (50-100 ml) of product / 100 gallons of water  or  0.051 fl oz (1.5 ml) – 0.1 fl oz (3.0 ml) of product / 3-gal of water	<b>Foliar applications:</b> Start treatments prior to establishment of high pest population and reapply on an as-needed basis.  Apply when pests first appear or when damage is first noticed. Spray thoroughly.
Shrubs Evergreens Trees - including Non-bearing Fruit and Nut Trees (Non-bearing fruit and nut trees are those trees that will not bear fruit or nuts for one year after application)			The addition of a spreader sticker may improve efficacy.  Make ground applications to foliage in a minimum of 10 gallons of spray solution per acre.  Make airblast application in a minimum of 50 gallons of spray solution per acre.  If concentrate or mist type spray equipment is used, use an equivalent amount of product on the area sprayed as would be used in a dilute application.  Reapply at 14-28 days interval, if needed.
Vegetable transplants*			

**\*VEGETABLE TRANSPLANTS:**

**FRUITING VEGETABLES:** Eggplant, Groundcherry, Pepinos, Pepper (Capsicum spp., including Bell, Chili, Cooking, Pimento and Sweet), Tomatillo, Tomato

**LEAFY VEGETABLES:** Amaranth (leafy amaranth, Chinese spinach, tampala), Arugula (Roquette), Cardoon, Celery, Celtuce, Chervil, Chinese celery, Chrysanthemum (edible-leaved and garland), Corn salad, Cress (garden), Cress (upland, yellow rocket, winter cress), Dandelion, Dock (sorrel), Endive (escarole), Florence fennel (Finocchio), Lettuce (head and leaf), Orach, Parsley, Purslane (garden and winter), Radicchio (red chicory), Rhubarb, Spinach [including New Zealand and vine (Malabar spinach, Indian spinach)], Swiss chard  
Broccoli, Brussels sprouts, Cabbage, Cauliflower, Cavalo broccolo, Chinese broccoli (gai lon), Chinese mustard cabbage (gai choy), Kohlrabi, Rape greens

**TUBEROUS AND CORM VEGETABLES:** Arracacha, Arrowroot, Artichoke (Chinese and Jerusalem), Canna (edible), Cassava (bitter and sweet), Chayote (root), Chufa, Dasheen (taro), Ginger, Leren, Sweetpotato, Tanier, Turmeric, Yam bean, Yam (true)

1 Mealybugs - If populations are heavy, make two foliar applications at 14-21 day intervals to control mealybug larvae that emerge after the first application.

2 Mites - If populations are heavy at the time of application, control may not be achieved rapidly enough to prevent economic damage to the plant. Make applications preventatively, or when populations are first detected. Spirotetramat 240 SC Greenhouse and Nursery Insecticide/Miticide will not control heavy populations of spider mites. If a second miticide application is necessary to achieve control, use a product with an alternative mode of action.

3 Thrips - Full control of thrips will be observed only on foliage; thrips in buds will be suppressed. If populations are heavy at the time of application, control may not be achieved rapidly enough to prevent economic damage to the plant. Make applications preventatively, or when populations are first detected on foliage.



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## **PRODUCED FOR**



**Bayer Environmental Science**

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Research Triangle Park, NC 27709**

Spirotetramat 240 SC (PENDING) 03/16/2015